

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-2 (canceled).

Claim 3 (currently amended): ~~Method~~ The method according to claim ~~1~~ 12, wherein the respective effect of each energy pulse ~~(E)~~ is registered by means of a seismic sensor ~~(10)~~ installed in situ on the pulse generator ~~(1)~~, transmitted via an instrument lead ~~(3)~~ to a control unit ~~(9)~~ located at ~~the~~ a surface outside the extraction area and evaluated ~~there~~, and ~~that~~ wherein after evaluation of the ~~measuring signals~~ effect of an energy pulse, the parameters of the following energy pulse ~~(E)~~ are defined by adjusting the pressure exerted by the pressure unit ~~(6)~~ and by at least one control signal that is transmitted via a control cable ~~(4)~~ and triggers the pulse generator ~~(1)~~ at ~~the~~ a defined time.

Claim 4 (currently amended): ~~Method~~ The method according to claim ~~1~~ 3, wherein a plurality of control signals are transmitted to the pulse generator ~~(1)~~ to trigger the pulse generator ~~(1)~~ at the defined time, to set ~~the~~ a liquid volume for the hydraulic pulse and to define the duration of the energy pulse ~~(E)~~.

Claim 5 (currently amended): ~~Method~~ The method according to claim ~~1~~ 12, wherein regeneration work is performed with weak energy pulses to clean internal surfaces and apertures in a screen of a production well, the screen having an internal diameter and first and second ends, the regeneration work starting at the first end, and, after the internal surfaces have been cleaned and the apertures in the screen ~~(W)~~ unclogged, the regeneration work is discontinued or interrupted, ~~that wherein~~ the pulse generator ~~(1)~~ and the underground pump ~~(8)~~ are temporarily withdrawn from the production well ~~(11)~~ and the pulse generator ~~(1)~~ provided at ~~its~~ upper and lower ends of the pulse generator with packer disks ~~(P)~~ that correspond to the internal diameter of the screen ~~(W)~~, each packer disk being separated from another packer disk by a respective distance, that wherein thereafter, a procedure is performed wherein the pulse generator ~~(1)~~ provided with the packer disks ~~(P)~~ is lowered to a terminal section of the screen ~~(W)~~ and, by means of the pressure unit ~~(6)~~, a regenerating liquid is pulsed or pressed via the pressure hose ~~(2)~~ line and the pulse generator ~~(1)~~ with weak energy pulses ~~(E)~~ through the unclogged apertures in the screen ~~(W)~~ into ~~the surroundings of the production well (11), i.e. into the an~~ aquifer ~~(A)~~ surrounding the production well, ~~this the~~ procedure being repeated successively in sections corresponding approximately to the distance between the packer disks ~~(P)~~ on the pulse generator ~~(1)~~ until the ~~other~~ second end of the screen ~~(W)~~

has been reached, ~~that~~ wherein the pulse generator (1) is then withdrawn again from the production well (11), the underground pump (8) lowered once more into the production well (11) and the regenerating liquid, after a defined period of action, pumped out completely along with ~~the~~ dissolved colmatants by the underground pump (8).

Claim 6 (currently amended): ~~Method~~ The method according to claim 5, wherein after ~~the~~ pulsing and pressing in of regenerating liquid and ~~the~~ subsequent withdrawal of the pulse generator (1) and the underground pump (8) from the production well (11), the packer disks (P) are detached again from the pulse generator (1) and the pulse generator (1) and the underground pump (8) then lowered once more into the production well, and ~~that~~ wherein the regenerating liquid, after a defined period of action during concurrent up-and-down movement of the pulse generator (1) and simultaneous, successive emission of weak hydraulic energy pulses by the pulse generator (1), is pumped out completely, along with the dissolved colmatants, by means of the underground pump (8).

Claim 7 (currently amended): ~~Device~~ A device for carrying out the method of, claim ~~1~~ 12, comprising a pulse generator (1) that can be lowered into the extraction area (F) of the borehole (11) and moved up and down in said extraction area (F), a seismic

sensor (10) installed on the pulse generator (1), a surface-located control unit (9) that is connected via an instrument lead and a control cable (3, 4) to the seismic sensor (10) and the pulse generator (1) respectively, a surface-located pressure unit (6) connected via a pressure line (2) to the pulse generator (1), and an underground pump (8) that can be lowered into the extraction area of the borehole (11).

Claim 8 (currently amended): ~~Device~~ The device according to claim 7, wherein the pulse generator (1) comprises: a cylinder in the upper portion of which a working chamber (12) of variable volume is located, said working chamber (12) being connected with the pressure line (2) and having outflow apertures (13) that are closed in the non-operative state, and in the lower portion of which a valve-closing chamber (15) is located, the two chambers being operatively interconnected by an electromagnetically operated valve piston (V) that can be moved downwards by momentary ~~energisation~~ activation of an electromagnet (14), thereby opening - by means of an upper valve disk (16) attached to the valve piston - the outflow apertures (13) and releasing the excessive pressure in the working chamber (12) as a hydraulic pulse; when the valve piston moves down, a lower valve disk (17) attached thereto causes a strong pressure increase in the valve-closing chamber (15), and immediately after the pressure in the working chamber (12) has been reduced, the valve piston (V) can

be pushed back into its starting position by means of the valve disk ~~(17)~~.

Claim 9 (currently amended): ~~Device~~ The device according to claim 7, wherein the liquid volume in the valve-closing chamber ~~(15)~~ and the pressure are controllable via a closing valve ~~(18)~~.

Claim 10 (currently amended): ~~Device~~ The device according to claim 7, wherein the upper and lower ends of the pulse generator ~~(1)~~ are each provided at times with a packer disk ~~(P)~~.

Claim 11 (currently amended): ~~Device~~ The device according to claim 10, wherein the diameter of the packer disks ~~(P)~~ corresponds to the internal diameter of the screen ~~(W)~~ of the production well.

Claim 12 (new): A method for intensifying permeability of ground layers close to boreholes and of filter bodies and filter layers in an underground extraction area of water wells and other production wells comprising the steps of:

(a) continuously pumping away liquid in an extraction area of a borehole by an underground pump;

(b) continuously moving a pulse generator up and down in the extraction area to cause energy pulses generated by a surface

pressure unit that is connected in leak-proof manner via a pressure line with the pulse generator moved in the extraction area, the pressure line introducing a pressure line liquid in the pulse generator and said pressure unit exerting a high pressure on the pressure line liquid as a hydraulic pulse at a defined pressure and for a defined duration out of the pulse generator into the liquid to be extracted to successively impinge the liquid toward borehole walls and filter bodies and filter layers in the underground extraction area;

(c) using seismic measurements to obtain a respective evaluation of an effect of each energy pulse; and

(d) determining parameters of a following energy pulse according to the evaluation of a previous energy pulse.